

Appl. No. 10/025,668  
AmdtAF. dated July 20, 2005  
Reply to Final Office Action of May 20, 2005

### Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims

1. (previously presented) An intravascular guidewire, comprising:  
an elongate core wire comprising a metal; and  
a polymer jacket comprising a shape memory polymer attached to and surrounding a portion of the core wire, the polymer jacket being more stiff than the portion of the core wire which it surrounds.
2. (original) An intravascular guidewire as in claim 1, wherein the metal comprises a stainless steel metal.
3. (original) An intravascular guidewire as in claim 1, wherein the metal comprises a super elastic metal.
4. (original) An intravascular guidewire as in claim 3, wherein the super elastic metal comprises a nickel titanium alloy.
5. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polyurethane.
6. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.
7. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

Appl. No. 10/025,668

AmdtAF. dated July 20, 2005

Reply to Final Office Action of May 20, 2005

8. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polymethylmethacrylate.

9. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA copolymer.

10. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

11. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

12. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PMMA copolymer.

13. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

14. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

15. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

16. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises a photocrosslinkable polymer.

17. (previously presented) A method of shaping a guidewire, comprising the steps of:  
providing a guidewire comprising an elongate core wire with a shape memory polymer jacket attached to and surrounding a portion of the core wire;

Appl. No. 10/025,668

AmdtAF. dated July 20, 2005

Reply to Final Office Action of May 20, 2005

deforming the polymer jacket and the portion of the core wire which it surrounds into a shape;

heating the deformed polymer jacket to a temperature at or above a glass transition temperature of the shape memory polymer; and

cooling the deformed polymer jacket to a temperature below the glass transition temperature of the shape memory polymer to maintain the shape.

18. (previously presented) A method of shaping a guidewire as in claim 17, further comprising the steps of:

deforming the polymer jacket and the portion of the core wire which it surrounds into a different shape;

reheating the deformed polymer jacket to a temperature at or above a glass transition temperature of the shape memory polymer; and

cooling the deformed polymer jacket to a temperature below the glass transition temperature of the shape memory polymer to maintain the different shape.

19. (previously presented) A method of shaping a guidewire as in claim 18, further comprising the steps of:

reheating the deformed polymer jacket to a temperature at or above a glass transition temperature of the shape memory polymer such that the guidewire returns to its original shape; and

cooling the deformed polymer jacket to a temperature below the glass transition temperature of the shape memory polymer.

20. (previously presented) An intravascular guidewire, comprising:  
an elongate core wire comprising a metal having an elastic limit; and  
a polymer jacket attached to and surrounding a distal tip portion of the core wire, the polymer jacket comprising a shape memory polymer having an elastic limit, the polymer jacket being more stiff than the distal tip portion of the core wire which it surrounds such that when the

Appl. No. 10/025,668  
AmdtAF. dated July 20, 2005  
Reply to Final Office Action of May 20, 2005

tip is deformed into a shape within the elastic limit of the metal and beyond the elastic limit of the polymer, the tip substantially retains the shape.

21. (previously presented) An intravascular guidewire as in claim 20, wherein the metal comprises a stainless steel metal.

22. (previously presented) An intravascular guidewire as in claim 20, wherein the metal comprises a super elastic metal.

23. (previously presented) An intravascular guidewire as in claim 22, wherein the super elastic metal comprises a nickel titanium alloy.

24. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polyurethane.

25. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.

26. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

27. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polymethylmethacrylate.

28. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA copolymer.

29. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

Appl. No. 10/025,668

AmdtAF. dated July 20, 2005

Reply to Final Office Action of May 20, 2005

30. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

31. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PMMA copolymer.

32. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

33. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

34. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

35. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises a photocrosslinkable polymer.